

## REMARKS

Claims 1, 7, 19, 22, 27 and 32 have been amended, claims 13-17 cancelled without prejudice and claims 38-41 added by way of this amendment. Further, a comma, which was inadvertently omitted from original claim 2 in the previous claim listing, is present in the current claim listing. No new matter is believed to be added by way of this amendment.

### Independent Claim 1

Claim 1 was rejected under 35 U.S.C. §102(b) as being anticipated by either Silverman, et al. (US 3,290,770) (hereafter "Silverman") or Joslin (US 3,208,136). Reconsideration and withdrawal of these rejections is requested.

Claim 1 recites:

A duct joining system, comprising:  
a first duct having a male end;  
a flexible seal and locking mechanism retained on said male end of said first duct; and  
a second duct having a female end having a first cross sectional area and a first bead of a second cross sectional area that is greater than said first cross sectional area, whereby upon sliding said female end over said male end to where said flexible seal and locking mechanism is aligned with said first bead, said flexible seal and locking mechanism expands into said first bead to form both a seal and a mechanical lock that provides resistance to the separation of said first duct and said second duct greater than a resistance to the joining of said first duct and said second duct.

Neither Silverman nor Joslin disclose apparatus where upon sliding one duct having a bead over another duct, a flexible seal and locking mechanism retained on the another duct expands into the bead to form both a seal and a mechanical lock.

Silverman discloses detonating an explosive inside two overlapping tubular metal elements to deform those elements and form interlocking ridges. Silverman does not disclose or suggest apparatus where upon sliding the female end of a second duct, which has a bead, over the male end of a first duct to where a flexible seal and locking mechanism is aligned with the bead, the flexible seal and locking mechanism expands into the bead to form both a seal and mechanical lock as set forth in Applicants' claim 1.

For example, in the embodiment illustrated in FIG. 10(c), Silverman discloses overlapping two elements and placing O-rings 117 and 118 therebetween. The overlapping elements are explosively driven together so that the O-rings plastically deform the elements and form interlocking ridges in the mating surfaces. Silverman's elements do not have a bead with and into which the O-rings can align and expand.

Joslin also does not disclose or suggest apparatus whereby upon sliding the female end of a second duct, which has a bead, over the male end of a first duct to where a flexible seal and locking mechanism is aligned with the bead, the flexible seal and locking mechanism expands into the bead to form both a seal and mechanical lock as set forth in Applicants' claim 1. Joslin discloses inserting one pipe having an annular groove into a second pipe using a hydraulic ram. A liquid sealant is placed in the annular groove to act as lubricant at the time the joint is formed and later hardens to form a sealant. Joslin's second pipe does not have a bead with and into which the sealant can align and expand to form a seal and mechanical lock.

Further, Joslin's seal is not a flexible seal. Sealant 28 is applied as a liquid lubricant, which substance is not a "flexible" material. Joslin also does not disclose or suggest that sealant 28 is flexible after it hardens.

#### Independent Claim 7

Claim 7 also was rejected under 35 U.S.C. §102(b) as being anticipated by Silverman (US 3,290,770). Reconsideration and withdrawal of this rejection is requested.

The arguments are analogous to those set forth above with respect to claim 1. In sum, Silverman does not disclose or suggest apparatus where upon sliding the female end of a first duct over the male end of a second duct, which has a first bead, to where a flexible seal and locking mechanism is aligned with the bead, the flexible seal and locking mechanism expands into the bead to form both a seal and mechanical lock as set forth in Applicants' claim 7.

#### Independent Claim 19

Claim 19 was rejected under 35 U.S.C. §102(b) as being anticipated by either Silverman (US 3,290,770) or Beyer (US 2,693,378). Applicants request reconsideration and withdrawal of this rejection.

Claim 19 claims means for providing a seal and a mechanical connection between a first duct and a second duct when a portion of the first duct is inserted into a portion of the second duct. Means plus function language must be interpreted in accordance with 35 U.S.C. §112(6). *In re Donaldson Co.*, 16 F.3d 1189, 1193, 29 USPQ 2d 1845, 1848-49. The Federal Circuit en banc stated that the PTO must look to the specification and interpret that language in light of the corresponding structure, material or acts described therein, and equivalents thereof, to the extent that the specification provides such disclosure. *Id.* Applicants' corresponding structure in the specification for the "means for providing a seal and a mechanical connection" does not include explosion apparatus as in Silverman or require fluid hydraulics as in Beyer.

Not only does Silverman's structure differ in that Silverman's structure includes explosion apparatus, it requires deforming two elements to secure them together. In contrast, Applicants disclosed means for providing a seal and a mechanical connection when the portion of the first duct is inserted into a portion of the second duct does not require duct deformation.

Beyer's apparatus requires hydraulic pressure for coil-like locking element 14 to form a seal and lock (col. 2, lines 34-36). Applicants' disclosed apparatus does not require hydraulic pressure. Further, Beyer's locking element is not carried by the first duct prior to insertion of the first duct into the second duct as in Applicants' dependent claim 38. In fact, it is not carried by the first duct at all. "[L]ocking element or part 14 is operatively 'carried' by the housing body part 11" (col. 2, lines 26-27).

#### Independent Claims 27 and 31

Claims 27 and 32 were rejected under 35 U.S.C. §102(b) as being anticipated by Silverman (US 3,290,770). Reconsideration and withdrawal of these rejections is requested.

Claim 27 describes a first duct including a member and a second duct including a groove "whereby upon sliding said second duct over said first duct until said member is in said groove a seal and a resistance to a separation of said first duct and said second duct greater than a resistance to the insertion of said first duct into said second duct is provided by said member and said groove." Silverman's ducts lack a groove to receive a member upon sliding one duct over the other duct.

Claim 32 describes a first duct including a member and a second duct including a groove "wherein the depth of the groove and the height of the member are selected so that upon sliding said second duct over said first duct until said member is in said groove, a seal and a resistance to a separation of said first duct and said second duct greater than a resistance to the insertion of said first duct and said second duct is provided by said member and said groove." Again, Silverman's ducts lack a groove to receive a member upon sliding one duct over the other duct.

The remaining claims, which depend from one of the independent claims discussed above, are allowable for reasons provided above as well as for containing subject matter not disclosed or suggested in the cited references.

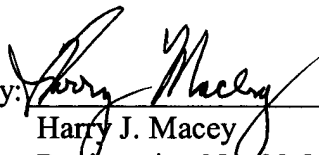
New independent claims 39 and 41 are not disclosed or suggested by the cited references.

Applicants submit that the pending claims are now in condition for allowance and respectfully request the issuance of a formal Notice of Allowance at an early date. If the Examiner maintains any of the foregoing rejections, Applicants request that the Examiner clearly point to specific examples in the cited references that support any rejection so maintained. If a telephone interview would advance prosecution of the application, the Examiner is invited to telephone the undersigned at the number provided below.

In the unlikely event that the transmittal letter is separated from this document and/or the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due, including additional claims fees, in connection with the filing of this document to Deposit Account No. 50-1947 referencing Attorney Docket No. PEG-2001CP1.

Respectfully submitted,

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